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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: December 28, 1981

SUBJECT: Work Request ES-82-009. Technical Review of ALCOA Ground Water Report

FROM: Jack Sceva  
Regional Geologist, ESD *JES*TO: John Barich, Chief  
Facilities Management SectionTHRU: Bill Schmidt, Chief *WBS*  
Field Operations Section

This is in reply to the above request. The report "Final Site characterization and Preparation of a Request for a Waiver from Monitoring at the Alcoa Wenatchee Works Potlining Disposal Site" was prepared by Law Engineering Testing Company. As a preface, I feel it is important to mention the status of aluminum potlining disposal sites and our waiver regulations.

1. Aluminum reduction plant potlinings are now exempt from RCRA as they are included in the mining and ore processing exemption.
2. The Wenatchee facility is not covered by RCRA Interim Status because of the above exemption and a waiver is not necessary.
3. It is my understanding that the mining exemption will not be changed in the immediate future.
4. EPA is under a court order to issue the final hazardous waste disposal regulations in February 1982. The specific requirements of the forthcoming final ground water monitoring regulations and waiver conditions are not known

If the Wenatchee Facility was not exempt from RCRA and we had to review their waiver application under the existing interim status regulations (CFR 265.90), I would conclude that there is "low potential for migration of hazardous waste or hazardous waste constituents from the facility--to water supply wells or to surface water" but our interim regulations set an impossible condition for the site to meet the waiver requirements.

The report as required by the regulations provides an adequate discussion of precipitation, evaporation and the unsaturated zone characteristics so as to demonstrate a low potential for migration of waste to the saturated zone. Consequently, if there is a low potential for the waste to migrate to the saturated zone there is also low potential for migration to wells or surface water. However, Section 265.90(c)(2) further requires a low potential for hazardous waste which enters the uppermost aquifer to migrate to a water supply well or surface water. As most aquifers are tributary to surface waters it would be impossible at most sites to certify that "if" hazardous waste should migrate to the uppermost aquifer, that it has low potential for ever migrating to surface water. In the case



of Alcoa at Wenatchee, the report states (p. 504) "The characteristics of the saturated zone are such that any downward seepage from the site would be rapidly transported to the Columbia River". Unfortunately this rapid transportation to surface water, no matter what the dilution, makes it almost impossible to meet the RCRA requirement.

If the potlinings should eventually be declared hazardous and Alcoa decides to pursue a monitoring waiver, the following comments relate to specific items in their technical report.

Page 2-8 I would disagree with the estimated effective porosity of 30 to 40 percent for the Columbia River Group. It is my opinion that the effective porosity would be closer to 5%. This difference however does not effect the evaluation of waste migration to the shallow alluvial aquifer.

Page 2-10 The first paragraph states that the pool elevations behind Rock Island Dam are controlled by spillway operations generally within a range between 612.5 and 613 feet above MSL while Figure 2.3 gives a stage-discharge curve for the Rock Island Pool at the Wenatchee Works. If the pool elevation is being controlled by spillway adjustments, how can you establish a stage discharge relationship?

Figure 2.2 The alluvial aquifer piezometric contour going through the Wenatchee Works Plant Site is shown as the 600 foot contour. If the Rock Island Pool is being maintained at an elevation of  $612 \pm$  feet, how can the adjacent ground water level be below pool level?

Table 3.2 This table shows that wells 78 and 79 (which are located at the Wenatchee Works) develop ground water from the shallow aquifer. The best demonstration that the pot lining disposal facility and the other waste disposal facilities on site are not impacting ground water would be provided by some chemical tests on ground water from these two wells. If they are not contaminated with fluoride, cyanide, or organic solvents, the site would have a "clean bill of health". If these wells are contaminated, it would indicate that waste from some past or present operations have migrated to the aquifer and would further indicate that such migration might also be a possibility at the potlining disposal facility.